

What Is Claimed Is:

1. A method of modeling a chamber of the heart comprising:
collecting a set of points inside the heart, each point having coordinates in
space;
computing the convex hull shape which estimates the boundary of the heart
from the set of points.
2. A method of modeling a chamber of the heart comprising:
collecting a set of points inside the heart, each point having coordinates in
space;
computing the convex hull shape which estimates the boundary of the heart
from the set of points;
resampling the computed hull shape on a regular grid to generate an enlarged
set of points
smoothing said convex hull shape forming a mathematically differentiable
shape approximating the physiologic shape of the heart chamber from said enlarged
set of points.
3. The method of claim 2 wherein said collection process collects points at a set
of times synchronized with the cardiac rhythm cycle, such that said points have
physical coordinates in space at a specific time in the cardiac cycle.
4. The method of claim 3 wherein said computing process calculates a convex
hull shape at discrete intervals in time corresponding to various stages of the heart
cycle, generating several hull shapes.
5. The method of claim 3 wherein said collection of several hull shapes are
sequentially compared to develop a measurement of cardiac wall position.
6. The method of claim 4 wherein said collection of several hull shapes are
sequentially compared to develop a measurement of cardiac wall velocity.
7. The method of claim 4 wherein said collection of several hull shapes are
sequentially compared to develop a measurement of cardiac wall acceleration.

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